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For: TRANSACTION ASSISTING APPARATUS AND RECORDING MEDIUM

**SUBMISSION OF CERTIFIED COPY OF PRIOR FOREIGN**  
**APPLICATION IN ACCORDANCE**  
**WITH THE REQUIREMENTS OF 37 C.F.R. § 1.55**

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Sir:

In accordance with the provisions of 37 C.F.R. § 1.55, the applicant(s) submit(s) herewith a certified copy of the following foreign application:

Japanese Patent Application No(s). 11-054858

Filed: March 3, 1999

It is respectfully requested that the applicant(s) be given the benefit of the foreign filing date(s) as evidenced by the certified papers attached hereto, in accordance with the requirements of 35 U.S.C. § 119.

Respectfully submitted,

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This is to certify that the annexed is a true copy of the following application as filed with this Office.

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Application Number: 11-054858

Applicant(s): FUJITSU LIMITED

Date

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[Title of the Invention] TRANSACTION ASSISTING APPARATUS  
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[List of Submitted Articles]

[Article]	Specification	1
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[Title of Document] Specification

[Title of Invention] TRANSACTION ASSISTING APPARATUS AND RECORDING MEDIUM

[Scope of Claims for Patent]

[Claim 1] A transaction assisting apparatus for assisting transactions in goods, comprising:

chain order input means permitting input of a chain order, the chain order being an order requesting, on condition of sale or purchase of first goods, purchase or sale of second goods different from the first goods;

order detecting means for detecting an order for purchase or sale of the first goods with respect to which the chain order is placed; and

chain order processing means, responsive to the detection of a buy or sell order with respect to a predetermined chain order by said order detecting means, for performing a selling or purchasing process with respect to the first goods and performing a purchasing or selling process with respect to the second goods.

[Claim 2] The transaction assisting apparatus according to claim 1, further comprising chain order storing means for storing the chain order input from said chain order input means; and

deleting means for deleting, from said chain order storing means, a chain order with respect to which processing has been completed by said chain order processing means.

[Claim 3] The transaction assisting apparatus according to claim 1, further comprising display means for selectively displaying those of the chain orders which include a sell or buy order for the second goods and which satisfy a condition for sale or purchase of the second goods.

[Claim 4] The transaction assisting apparatus according to claim 3, wherein said display means inhibits display of information about a buy or sell order for the second goods included in the chain order when the chain order is placed, and displays the information after the chain order is transacted.

[Claim 5] The transaction assisting apparatus according to claim 3, further comprising price changing means, responsive to change in price of the second goods among chain orders displayed by said display means, for changing the price of the corresponding first goods in an interlocked manner.

[Claim 6] The transaction assisting apparatus according to claim 1, wherein said chain order processing means performs chain order processing in series if an order placed with respect to the second goods to be transacted is a chain order.

[Claim 7] A computer-readable recording medium recording a program to be executed by a computer for causing the computer to perform a transaction assisting process for assisting transactions in goods,

wherein the program causes the computer to function as:

chain order input means permitting input of a chain order, the chain order being an order requesting, on condition of sale or purchase of first goods, purchase or sale of second goods different from the first goods;

order detecting means for detecting an order for purchase or sale of the first goods with respect to which the chain order is placed; and

chain order processing means, responsive to the detection of a buy or sell order with respect to a predetermined chain order by the order detecting means, for performing a selling or purchasing process with respect to the first goods and performing a purchasing or selling process with respect to the second goods.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to a transaction assisting apparatus and a recording medium, and more particularly, to a transaction assisting apparatus for assisting transactions wherein sell/buy orders from a plurality of customers are displayed at display units and when a deal for a certain order is offered, an agent places an order for corresponding goods to thereby conduct the deal of goods, and to a computer-readable recording medium storing a program for causing a computer to perform

such a transaction assisting process.

[0002]

[Prior Art]

In recent years, a variety of transaction assisting apparatus are used with a view to ensuring reliability and swiftness of transactions in goods etc.

[0003]

FIG. 22 is a block diagram exemplifying a configuration of a transaction assisting system comprising a transaction assisting apparatus for assisting transactions in bonds, terminal units, etc.

[0004]

In the figure, a transaction assisting apparatus 1 accepts and stores sell and buy orders etc. for bonds, which are input from a terminal unit 2 owned by an agent, performs a predetermined process on the orders, and makes the orders displayed at the terminal unit 2 as well as at display units 3-1 to 3-n installed at customers' side.

A telephone 4 installed at the agent's side is connected via a leased line (hot line) 6 to customers' telephones 5-1 to 5-n.

Let it be assumed that, in this transaction assisting system, a customer A, for example, has requested, using the telephone 5-1, a sell order for bonds with the circular issue (a sort of serial number) "183" to the agent having the telephone 4.

[0005]

On receiving the request, the agent operates the terminal unit 2 to input the sell order for "183". The transaction assisting apparatus 1 detects the input of the sell order for the bonds "183", stores the input sell order in a storage device therein, and displays the sell order at the agent's terminal unit 2 as well as at the display units 3-1 to 3-n.

[0006]

FIG. 23 shows an example of a screen displayed in this case at the terminal unit 2 and the display units 3-1 to 3-n. In the illustrated example, sell and buy orders for the bonds "183" are shown in list form. Also, in the screen shown in the figure, sell orders and buy orders are shown in left- and right-hand regions of the list, respectively. "ORDER NO." is a number assigned so as to specify each sell or buy order, and "RATE" indicates the yield of the bond concerned. "AMOUNT" indicates an amount ordered, and "1 BILLION" means one billion yen. The display screen as shown in the figure is called board screen.

[0007]

In the illustrated example, only one order is shown, but in cases where there are a plurality of orders, sell orders and buy orders are respectively shown in order of rate such that the order with the highest rate (hereinafter referred to as best rate) is listed at top.

[0008]

If, looking at the display screen, a customer B, for example, puts in a buy order for "183" with the agent by using the telephone 5-2, the agent enters the requested buy order through the terminal unit 2. Consequently, the transaction assisting apparatus 1 performs a contracting process (process executed when a deal is to be closed) with respect to the sell order for "183".

[0009]

As a result, the deal for "183" is conducted, whereupon the transaction assisting apparatus 1 deletes the sell order for "183" from the storage device and also deletes the display item corresponding to the sell order for "183" from the display screens of the terminal unit 2 and the display units 3-1 to 3-n. If there are other sell orders remaining, display items corresponding thereto are appropriately rearranged according to rates.

[0010]

The use of the aforementioned transaction assisting apparatus 1 permits reliable and speedy transactions.

[0011]

[Problems that the Invention to Solve]

In the dealing business, a so-called chain deal is conducted in which one purchases somebody else's goods on condition that he or she sells his/her own goods.

[0012]

In the case of bonds, for example, chain deal is

conducted in such a manner that one purchases somebody else's "200" bonds if a buy order is offered for his/her "183" bonds, or conversely, one sells his/her "183" bonds if a sell order for "200" bonds is offered by somebody else.

[0013]

Let us consider the case where such chain deal is conducted with the use of the transaction assisting system shown in FIG. 22. If a customer puts in the chain order as mentioned above, for example, the agent enters a sell order for "183" through the terminal unit 2, whereupon the sell order for "183" is displayed at the terminal unit 2 and the display units 3-1 to 3-n.

[0014]

This chain order is a sell order premised on the presence of a chained order (in this example, "200") on which the chain order chains, and accordingly, the agent must always make sure whether there is a sell order for "200", which is a chained order, and must immediately suspend the sell order for "183" when there is no chained order present.

[0015]

Thus, when such a chain order is accepted, it is necessary for the agent to always direct his or her attention to chained orders, making the work complicated.

Also, when a buy order is offered for the chain order "183", a buy order for the chained order "200" must

be placed immediately in a manner interlocked with such a buy order, which increases the burden imposed on the agent.

[0016]

Further, in cases where chained orders are chain (for example, the above order for "200" also is a chain order which chains on "201"), the aforementioned operation needs to be repeatedly performed, which often makes it difficult to carry out the process reliably and speedily.

[0017]

An object of the present invention is to provide a transaction assisting apparatus which makes it possible to reliably and speedily conduct chain orders and replacement orders in transactions in goods etc.

[0018]

[Means for Solving Problems]

To solve the above problems, the present invention provides a transaction assisting apparatus 50 for assisting transactions in goods, as shown in FIG. 1, which is characterized by comprising chain order input means 50a permitting input of a chain order, which is an order requesting, on condition of sale or purchase of first goods, purchase or sale of second goods different from the first goods, order detecting means 50c for detecting an order for purchase or sale of the first goods with respect to which the chain order is placed, and chain order processing means 50d, responsive to the detection of a buy or sell order with respect to a predetermined chain

order by the order detecting means 50c, for performing a selling or purchasing process with respect to the first goods and performing a purchasing or selling process with respect to the second goods.

[0019]

The chain order input means 50a accepts entry of a chain order which is an order requesting, on condition of sale or purchase of first goods, purchase or sale of second goods different from the first goods. The order detecting means 50c detects an order for purchase or sale of the first goods with respect to which the chain order is placed. When a buy or sell order with respect to a predetermined chain order is detected by the order detecting means 50c, the chain order processing means 50d performs a selling or purchasing process with respect to the first goods and performs a purchasing or selling process with respect to the second goods.

[0020]

**[Embodiments of the Invention]**

Embodiments of the present invention will be hereinafter described with reference to the drawings. FIG. 1 illustrates the principle of operation of a transaction assisting apparatus according to the present invention.

[0021]

In the figure, chain order input means 50a permits input of a chain order, which is an order requesting, on condition of sale or purchase of first

goods, purchase or sale of second goods different from the first goods.

[0022]

Chain order storing means 50b stores the chain order input from the chain order input means 50a. The chain order storing means 50b stores, in addition to chain orders, ordinary sell orders and buy orders.

[0023]

Order detecting means 50c detects a buy or sell order for the first goods which are a target of a predetermined chain order stored in the chain order storing means 50b.

[0024]

When such a buy or sell order with respect to the predetermined chain order is detected by the order detecting means 50c, chain order processing means 50d performs a selling or purchasing process with respect to the first goods and a purchasing or selling process with respect to the second goods.

[0025]

Deleting means 50e deletes, from the chain order storing means 50b, a chain order with respect to which processing has been completed by the chain order processing means 50d.

If the price of the second goods has changed because of a new sell or buy order etc., price changing means 50f changes the price of the first goods in a manner

interlocked with the change of the price of the second goods. When it is unnecessary to change prices, the price changing means 50f supplies the chain orders stored in the chain order storing means 50b directly to display means 50g.

[0026]

The display means 50g causes a display unit 60 to display the chain order of which the price has been appropriately changed by the price changing means 50f.

The operation in accordance with the aforementioned principle will be now described. The following description is given taking as an example a chain deal in which one purchases somebody else's goods on condition of sale of his or her goods.

[0027]

Assuming that a customer A places a chain order for purchase of bonds "200" on condition of sale of his/her bonds "183", the chain order is entered by, for example, an agent, through the chain order input means 50a. In the following, the bonds (in this example, "183") which are to be sold by the chain order are called chain issue, and the bonds (in the example, "200") to be purchased are called chained issue.

[0028]

The chain order input from the chain order input means 50a is stored in the chain order storing means 50b.

FIG. 2 shows, by way of example, a chain order

stored in the chain order storing means 50b. In the illustrated example is shown information indicative of a chain order specifying the aforementioned "200" as the chained issue (on which the chain issue chains) and "183" as the chain issue. "AMOUNT" indicates an amount of the chain issue to be sold and, in this example, "1 BILLION" yen.

[0029]

"RATE" is a value determining the selling rate of "183", and the illustrated example indicates that "0.1" is to be added to the rate of the chained issue "200". Accordingly, if the rate of "200" is "1.05", the rate of "183" is "1.15".

[0030]

"DESIGNATION RANGE" indicates that if the best rate of the chain issue is within this range, the corresponding chained order is valid. In the illustrated example, if a buy order for the chain issue "183" is offered and if the best rate of the chained issue "200" is within the range from "1.00" to "1.20", a buy order is placed for the chained issue "200".

[0031]

The price changing means 50f reads out the chain order stored in the chain order storing means 50b, and if the price of the chained issue has changed, it changes the price of the chain issue and supplies the changed price to the display means 50g. If there has been no change in

price, the information is supplied to the display means 50g without being modified.

[0032]

The display means 50g causes the display unit 60 to display the information supplied from the price changing means 50f. In this case, the display means 50g assigns an order number to each order, and also affixes information indicative of chain order (as described in detail later) to an order if the order is a chain order.

[0033]

FIG. 3 shows an example of a display screen displayed at the display unit 60 as a result of the aforementioned process. In the illustrated example is shown information relating to "183" and "200". With regard to "183", the information corresponding to the previously input chain order is shown with the order number "8" assigned thereto. "H" appearing in the lower right corner of the cell with the order number "8" indicates that the order concerned is a chain order, and is information affixed by the display means 50g. In "RATE" is shown a value (= 1.150) which is obtained by adding "0.1" to the rate of the sell order with the order number "2" displayed as the information relating to "200" below the information on "183".

[0034]

Basically, chain order is a sell/buy order for chained goods, and thus the sell/buy order for other goods

should also be displayed on the board screen. If, however, such a sell/buy order for other goods is displayed, a sell order, for example, can possibly be placed for the buy order, and therefore, such a sell/buy order is shown temporarily after the deal of the chain issue is transacted, and not at the time when the order is placed.

[0035]

Let it be assumed that a customer B, for example, puts in a buy order for "183" while viewing the display screen as shown in FIG. 3, the order detecting means 50c makes reference to the chain order storing means 50b to determine whether there is a chain order which chains on the input buy order. If, as a result, it is found that there is an applicable chain order, the order detecting means 50c acquires the corresponding information from the chain order storing means 50b and supplies the acquired information to the chain order processing means 50d.

[0036]

While referring to the chain order supplied from the order detecting means 50c, the chain order processing means 50d performs a selling process with respect to the chain issue and a purchasing process with respect to the chained issue.

[0037]

In this example, "183" is the chain issue and "200" is the chained issue; accordingly, the selling process is performed with respect to "183" and then the

purchasing process is performed with respect to "200". As a result, "183" is sold to the customer B and "200" is sold to the customer A who placed the chain order, whereby a contract is made.

[0038]

After the processing of the chain order is completed, the chain order processing means 50d notifies the deleting means 50e of completion of the processing. On receiving such notification from the chain order processing means 50d, the deleting means 50e deletes the corresponding chain order from the chain order storing means 50b.

[0039]

Consequently, the chain order shown in FIG. 2 is deleted from the chain order storing means 50b and the order with the order number "8", shown in FIG. 3, disappears from the screen of the display unit 60.

[0040]

At this time, the display means 50g causes the display unit 60 to temporarily display a message informing that a buy order for the chain issue has been accepted.

Such a buy order for the chain issue may alternatively be displayed on the board screen while specifying that the order concerned is a buy order related to the chain order.

[0041]

As described above, the transaction assisting

apparatus 50 according to the present invention automatically conducts chain orders, whereby the burden imposed on the agent etc. can be mitigated.

[0042]

In the foregoing description, fluctuation in price of the chained issue and other factors are not taken account of; however, in actual transactions, price is subject to fluctuation and also a sell order for the chained issue may be canceled. The following explains a process executed in such situations.

[0043]

Let it be assumed that a sell order is newly put in for the chained issue "200", for example, and that the rate of this sell order is the highest (best rate) among those then available. Chain order should chain on the chained issue with the best rate, and therefore, if the best rate has changed, the rate of the chain issue needs to be varied so as to follow up such change.

[0044]

Assuming that a new sell order with the rate "1.055" is placed for the chained issue "200", for example, this order is displayed at the top of the display area associated with "200", as shown in FIG. 4, since it has the best rate.

[0045]

In this case, the price changing means 50f detects the change in the best rate of the chained issue,

changes the rate of the chain issue "183", and supplies the changed rate to the display means 50g. Specifically, in this example, since the rate of the chain issue is the sum of the rate of the chained issue and "0.1", as shown in FIG. 2, "1.155" is calculated as the new rate and is supplied to the display means 50g.

[0046]

The display means 50g generates a new order number "12" for the chain order whose rate has been changed, and updates the contents of information displayed at the display unit 60.

As a result, a chain order having the order number "12" and the rate "1.155" is displayed at the display unit 60, as shown in FIG. 4.

[0047]

As described above, with the transaction assisting apparatus 50 according to the present invention, the rate of the chain issue is varied automatically in a manner interlocked with fluctuation in the rate of the chained issue, whereby the burden imposed on the agent etc. can be mitigated.

[0048]

The following describes a process executed in cases where the best rate of the chained issue becomes outside the designation range, the chained issue is sold out, or the sell order has been canceled and there no longer exists a chained issue to be dealt in.

[0049]

If the best rate of the chained issue changes to "1.21", for example, then it is outside the designation range because the chain order for the chain issue "183" has the designation range from "1.00" to "1.20", as shown in FIG. 2.

[0050]

In such a case, the display means 50g immediately stops the output of this chain order, so that the corresponding information disappears from the screen of the display unit 60.

Similarly, in cases where a sell order for the chained issue has gone, the display of the chain order is stopped by the display means 50g, and thus the corresponding information disappears from the screen.

[0051]

The display of the chain order is stopped only temporarily, and if the best rate of the chained issue comes to fall within the designation range or a new sell order is placed for the chain issue, the chain order is again displayed on screen.

[0052]

As described above, with the transaction assisting apparatus 50 according to the present invention, in cases where a sell order for the chained issue has gone or the best rate of the chained issue becomes outside the designation range, the display of the chain order is

temporarily stopped. It is therefore unnecessary for the agent to stop or restart the display of the chain order while watching the conditions for display, whereby the burden imposed on the agent can be mitigated.

[0053]

In the case where an order for the chained issue also is a chain order, the chain order processing means 50d performs a similar process also with respect to the chained issue, so that a chain of chain orders can be coped with. If, in the example stated above, an order for the issue "200", on which "183" chains, is a chain order specifying "201" as the chained issue, for example, the purchasing process for "201" is additionally executed following the aforementioned process.

[0054]

It is therefore possible to further mitigate the burden imposed on the agent and to carry out transactions reliably and speedily.

Referring now to FIG. 5, an exemplary configuration according to one embodiment of the present invention will be described.

[0055]

FIG. 5 is a block diagram exemplifying a configuration according to the embodiment of the present invention.

In the figure, a transaction assisting apparatus 1 accepts and stores sell orders, buy orders, etc. input

through a terminal unit 2 owned by an agent, subjects the input orders etc. to a predetermined process such as sorting, and causes the terminal unit 2 and display units 3-1 to 3-n installed at customers' side to display the processed data.

[0056]

As shown in the figure, the transaction assisting apparatus 1 comprises a CPU (Central Processing Unit) 1a, a ROM (Read Only Memory) 1b, a RAM (Random Access Memory) 1c, an HDD (Hard Disk Drive) 1d, I/Fs (Interfaces) 1e and 1f, and a bus 1g.

[0057]

The CPU 1a controls various sections of the apparatus in accordance with programs etc. stored in the ROM 1b, the RAM 1c and the HDD 1d, and performs various operations.

[0058]

The ROM 1b stores basic programs executed by the CPU 1a, as well as data, etc.

The RAM 1c temporarily stores programs to be executed by the CPU 1a, data derived in the middle of calculations, etc.

[0059]

The HDD 1d stores various programs executed by the CPU 1a, and also stores sell orders, buy orders, chain orders, etc. input through the terminal unit 2.

[0060]

The I/F 1e is an interface for the terminal unit 2, and converts data format from one to another to permit exchange of information between the terminal unit 2 and the transaction assisting apparatus 1.

[0061]

The I/F 1f supplies image information simultaneously to the display units 3-1 to 3-n and causes the display units to display a board screen as shown in FIG. 23. The contents of display of the terminal unit 2 are the same as those of the display units 3-1 to 3-n, and thus the agent and the customers share identical information.

[0062]

The bus 1g interconnects the CPU 1a, the ROM 1b, the RAM 1c, the HDD 1d, and the I/Fs 1e and 1f, to permit information to be exchanged with one another.

A telephone 4 installed at the agent's side is connected via a leased line (hot line) 6 to telephones 5-1 to 5-n installed at the customers' side.

[0063]

The operation of the above embodiment will be now described with reference to FIG. 6.

FIG. 6 is a flowchart illustrating an example of a process executed when a chain order is placed in the embodiment shown in FIG. 5. When the process is started, the following steps are executed.

[S1] The CPU 1a determines whether or not a

chain order has been put in. If a chain order has been put in, the flow proceeds to Step S2; otherwise the flow proceeds to Step S3.

[0064]

Namely, when a chain order has been input through manipulation of the terminal unit 2, the CPU 1a executes Step S2; otherwise it executes Step S3.

[S2] The CPU 1a records the chain order input in Step S1 in a predetermined file (reserved order file; see FIG. 2) stored in the HDD 1d.

[S3] The CPU 1a performs, with respect to the terminal unit 2 and the display units 3-1 to 3-n, a "DISPLAY PROCESS" whereby the chain orders stored in the reserved order file shown in FIG. 2 are suitably displayed at these units.

[0065]

Details of the process will be described later with reference to FIG. 7.

[S4] If a certain chain order fails to fulfill required conditions, the CPU 1a executes a "CANCELLATION PROCESS" whereby the chain order concerned is canceled.

[0066]

Details of this process will be described later with reference to FIG. 8.

[S5] If the best rate of the chained issue has changed, the CPU 1a executes a "RATE FOLLOW-UP PROCESS" to cause the rate of the chain issue to follow up the best

rate in a manner interlocked therewith.

[0067]

The process will be described in detail later with reference to FIG. 9.

[S6] If a buy order is put in for the chain issue with respect to which a chain order has been placed, the CPU 1a executes a "CONTRACTING PROCESS", which is a series of operations required to transact the chain order.

[0068]

Details of this process will be described later with reference to FIG. 10.

[S7] The CPU 1a determines whether or not the process is to be ended. If the process should not be ended, the flow returns to Step S1, otherwise the process is ended (END).

[0069]

For example, if execution of a process other than the illustrated process is requested, the CPU 1a terminates the process; otherwise the flow returns to Step S1.

Referring now to FIG. 7, the "DISPLAY PROCESS" shown in FIG. 6 will be described in detail. Upon start of the process shown in the flowchart, the following steps are executed.

[S10] The CPU 1a determines whether or not a chain order is recorded in the reserved order file stored in the HDD 1d. If a chain order is recorded, the flow

proceeds to Step S11; otherwise the flow returns to the original process (RETURN).

[S11] The CPU 1a acquires one predetermined chain order from the reserved order file.

[S12] The CPU 1a determines whether or not there remains the amount of the chained issue requested by the chain order acquired in Step S11, that is, whether or not there is a sufficient amount of the chained issue with the best rate. If there is a sufficient amount of the chained issue, the flow proceeds to Step S13; if not, the flow proceeds to Step S17.

[S13] The CPU 1a determines whether or not the rate of the best-rate chained issue falls within the designation range. If the rate is within the designation range, the flow proceeds to Step S14, and if not, the flow proceeds to Step S17.

[S14] The CPU 1a determines whether or not the chain order being processed is already displayed. If the chain order is already displayed, the flow proceeds to Step S17; if not, the flow proceeds to Step S15.

[S15] The CPU 1a issues an order number.

[S16] The CPU 1a causes the terminal unit 2 and the display units 3-1 to 3-n to display the chain order being processed on their board screen.

[0070]

Usually, since chain order involves a sell/buy order (in this example, buy order) for chained goods, the

sell/buy order is displayed also on the board screen associated with the chained goods. However, such a buy order is not displayed because it is not transacted singly.

[S17] The CPU 1a refers to the reserved order file to determine whether or not there is an unprocessed chain order. If an unprocessed chain order exists, the flow returns to Step S11 to repeat the same process as described above; if not, the flow returns to the original process (RETURN).

[0071]

According to the above process, if a chain order is recorded in the reserved order file and if it fulfills the chain order display conditions (if there remains a sufficient amount of the chained issue, if the rate is within the designation range, and if the chain order is not displayed yet), the chain order is displayed on the board screens with an order number assigned thereto. If the chain order thereafter fails to satisfy the display conditions, it is deleted from the board screens in the "CANCELLATION PROCESS" or the "RATE FOLLOW-UP PROCESS" described below.

[0072]

Referring now to FIG. 8, the "CANCELLATION PROCESS" shown in FIG. 6 will be described in detail. When the process shown in the flowchart is started, the following steps are executed.

[S20] The CPU 1a determines whether or not a

sell order has been canceled. If a sell order has been canceled, the flow proceeds to Step S21; otherwise the flow returns to the original process (RETURN).

[S21] The CPU 1a refers to the reserved order file to determine whether or not there is a chain order which chains on the canceled sell order. If such a chain order exists, the flow proceeds to Step S22, and if not, the flow returns to the original process (RETURN).

[S22] The CPU 1a deletes the applicable chain order from the board screens, and then resumes the original process (RETURN).

[0073]

According to the above process, if a sell order is canceled and if a certain chain order chains on the sell order, the chain order is deleted from the board screens. Needless to say, the canceled sell order is also deleted from the board screens by another process, not shown.

[0074]

Referring now to FIG. 9, the "RATE FOLLOW-UP PROCESS" shown in FIG. 6 will be described in detail. Upon start of the process shown in the flowchart, the following steps are executed.

[S30] The CPU 1a determines whether or not a new sell order has been placed. If a sell order has been newly placed, the flow proceeds to Step S31; otherwise the flow returns to the original process (RETURN).

[S31] The CPU 1a determines whether or not the sell order is an order with the best rate (best-rate order). If the sell order is a best-rate order, the flow proceeds to Step S32; if not, the flow returns to the original process (RETURN).

[S32] The CPU 1a refers to the reserved order file to determine whether or not there exists a chain order which chains on the best-rate order. If such a chain order exists, the flow proceeds to Step S33; otherwise the flow returns to the original process (RETURN).

[S33] The CPU 1a calculates a new rate corresponding to the best rate. Specifically, the CPU 1a adds the rate specified when the chain order was placed (the rate shown in FIG. 2) to the rate of the chained issue whose rate has been judged to be highest (best rate) in Step S31, thereby calculating the rate of the chain issue.

[S34] The CPU 1a deletes the chain order in question from the board screens.

[S35] The CPU 1a looks up the designation range stored in the reserved order file, and determines whether or not the new rate falls within the designation range. If the new rate is within the designation range, the flow proceeds to Step S36; if not, the flow returns to the original process (RETURN).

[S36] The CPU 1a issues a new order number.

[S37] The CPU 1a displays, on the board screens,

the chain order to which the new order number and the new rate have been assigned.

[0075]

According to the above process, when the best rate of the chained issue has changed, the corresponding chain issue is deleted from the board screens, and the chain order is again displayed with a new order number and a new rate assigned thereto. Also, if the new rate does not fall within the designation range, the corresponding chain order is deleted from the board screens.

[0076]

Lastly, referring to FIG. 10, details of the "CONTRACTING PROCESS" shown in FIG. 6 will be described. When the process shown in the flowchart is started, the following steps are executed.

[S40] The CPU 1a determines whether or not a buy order has been placed. If a buy order has been placed, the flow proceeds to Step S41; otherwise the flow returns to the original process (RETURN).

[S41] The CPU 1a refers to the reserved order file, and if the buy order placed is a buy order for a chain order, the flow proceeds to Step S42; otherwise the flow proceeds to Step S48.

[S42] The CPU 1a automatically conducts a deal with respect to the chain order concerned. Specifically, a selling process for the chain issue and a purchasing process for the chained issue are performed.

[S43] The CPU 1a deletes the corresponding chain order from the board screens.

[S44] The CPU 1a deletes the corresponding chain order from the reserved order file.

[S45] The CPU 1a deletes the corresponding chained order from the board screens. At this time, the CPU 1a temporarily displays, on the board screens, information indicating that a buy order for the chained goods has been conducted.

[S46] The CPU 1a deletes the corresponding chained order from the reserved order file.

[0077]

In the case where the amount of the chained order is greater than that of the chain order, the remainder of the chained order is displayed with a new order number issued (for example, the number "1-2" is issued to indicate that the order is derived from the original order with the order number "1").

[S47] The CPU 1a determines whether or not the chained order is a chain order. If the chained order is a chain order, the flow returns to Step S42 to repeat the same process as described above; if not, the flow returns to the original process (RETURN).

[0078]

Namely, in the case where chain orders are chained, the flow returns to Step S42 and the aforementioned process is repeated, so that a chain of

chain orders can be coped with.

In order to avoid the process becoming too complicated, the process may be interrupted in the event more than a predetermined number of chain orders are chained.

[S48] The CPU 1a conducts an ordinary deal. Namely, since the buy order placed is not for a chain order and is an ordinary order (outright order), an ordinary process is carried out with respect to the outright order and the original process is resumed (RETURN).

[0079]

According to the above process, if a buy order is placed and if the order placed is for a chain order (chain issue), a selling process for the chain issue and a purchasing process for the chained issue are automatically carried out, and the results of the deals conducted are reflected in the board screens.

[0080]

As described above, according to the embodiment of the present invention, chain orders are automatically transacted, permitting reliable and speedy transactions.

In the event the best rate of the chained issue has changed, the rate of the chain issue is automatically varied so as to follow up the best rate, whereby the burden imposed on the agent can be mitigated.

[0081]

Also, if the best rate of the chained issue changes to such an extent as to become outside the designation range or if a sell order for the chained issue is canceled, the chain order is deleted from the screens and the display of the chain order is suspended until the chain order again fulfills the display conditions thereafter. It is therefore possible to prevent a buy order from being placed by mistake.

[0082]

In the foregoing description, only a chain order in which one purchases somebody else's goods on condition of sale of his/her bonds is explained, but the present invention is also applicable to a chain order in which one sells his/her goods on condition of purchase of somebody else's bonds.

[0083]

Also, although the above description is given taking bonds as an example, goods to be transacted by the present invention are not limited to bonds alone and various other goods can of course be transacted.

[0084]

Further, in the foregoing description, a buy order (or sell order) for chained goods is temporarily displayed on the board screens after a chain deal is conducted, but may be displayed from the first on the board screens while explicitly indicating that the goods are chained goods.

[0085]

Lastly, the processing function described above can be performed by a computer. In this case, the contents of the process for performing the functions as the transaction assisting apparatus may be described in a program recorded on a computer-readable recording medium. The program is executed by a computer, whereupon the above-described process is performed by the computer. The computer-readable recording medium includes a magnetic recording device, a semiconductor memory, etc.

[0086]

To bring the program to market, the program may be stored in portable recording media, such as CD-ROM (Compact Disk Read Only Memory) or floppy disk, to be distributed, or the program may be stored in a storage device of a computer connected to a network so that it can be transferred to other computers through the network. The program may be stored in a hard disk unit or the like of a computer, and when it is to be executed by the computer, the program is loaded into the main memory and executed.

[0087]

**[Advantage of the Invention]**

As described above, according to the present invention, a transaction assisting apparatus for assisting transactions in goods comprises chain order input means permitting input of a chain order, the chain order being an order requesting, on condition of sale or purchase of

first goods, purchase or sale of second goods different from the first goods, order detecting means for detecting an order for purchase or sale of the first goods with respect to which the chain order is placed, and chain order processing means, responsive to the detection of a buy or sell order with respect to a predetermined chain order by the order detecting means, for performing a selling or purchasing process with respect to the first goods and performing a purchasing or selling process with respect to the second goods. Accordingly, chain deals can be transacted reliably and speedily, and the burden imposed on the agent etc. can be mitigated.

**[Brief Description of the Drawings]**

**[Figure 1]**

FIG. 1 is a diagram illustrating the principle of operation according to the present invention.

**[Figure 2]**

FIG. 2 is a diagram showing an example of information stored in chain order storing means appearing in FIG. 1.

**[Figure 3]**

FIG. 3 is a diagram showing an example of a display screen displayed at a display unit appearing in FIG. 1.

**[Figure 4]**

FIG. 4 is a diagram showing an example of a display screen which is displayed when a sell order for a

chained issue is newly offered in FIG. 3.

[Figure 5]

FIG. 5 is a block diagram exemplifying a configuration according to one embodiment of the present invention.

[Figure 6]

FIG. 6 is a flowchart showing an example of a process executed in the embodiment shown in FIG. 5.

[Figure 7]

FIG. 7 is a flowchart illustrating details of a "DISPLAY PROCESS" shown in FIG. 6.

[Figure 8]

FIG. 8 is a flowchart illustrating details of a "CANCELLATION PROCESS" shown in FIG. 6.

[Figure 9]

FIG. 9 is a flowchart illustrating details of a "RATE FOLLOW-UP PROCESS" shown in FIG. 6.

[Figure 10]

FIG. 10 is a flowchart illustrating details of a "CONTRACTING PROCESS" shown in FIG. 6.

[Figure 11]

FIG. 11 is a diagram exemplifying a configuration of a conventional transaction assisting system.

[Figure 12]

FIG. 12 is a diagram showing an example of a display screen displayed at a terminal unit and display

units of the system shown in FIG. 11.

[Description of Reference Numerals]

1 Transaction Assisting Apparatus

1a CPU

1b ROM

1c RAM

1d HDD

1e,1f I/F

1g BUS

2 terminal unit

3-1~3-n display unit

4, 5-1~5-n telephone

6 leased line

50 transaction assisting apparatus

50a chain order input means

50b chain order storing means

50c order detecting means

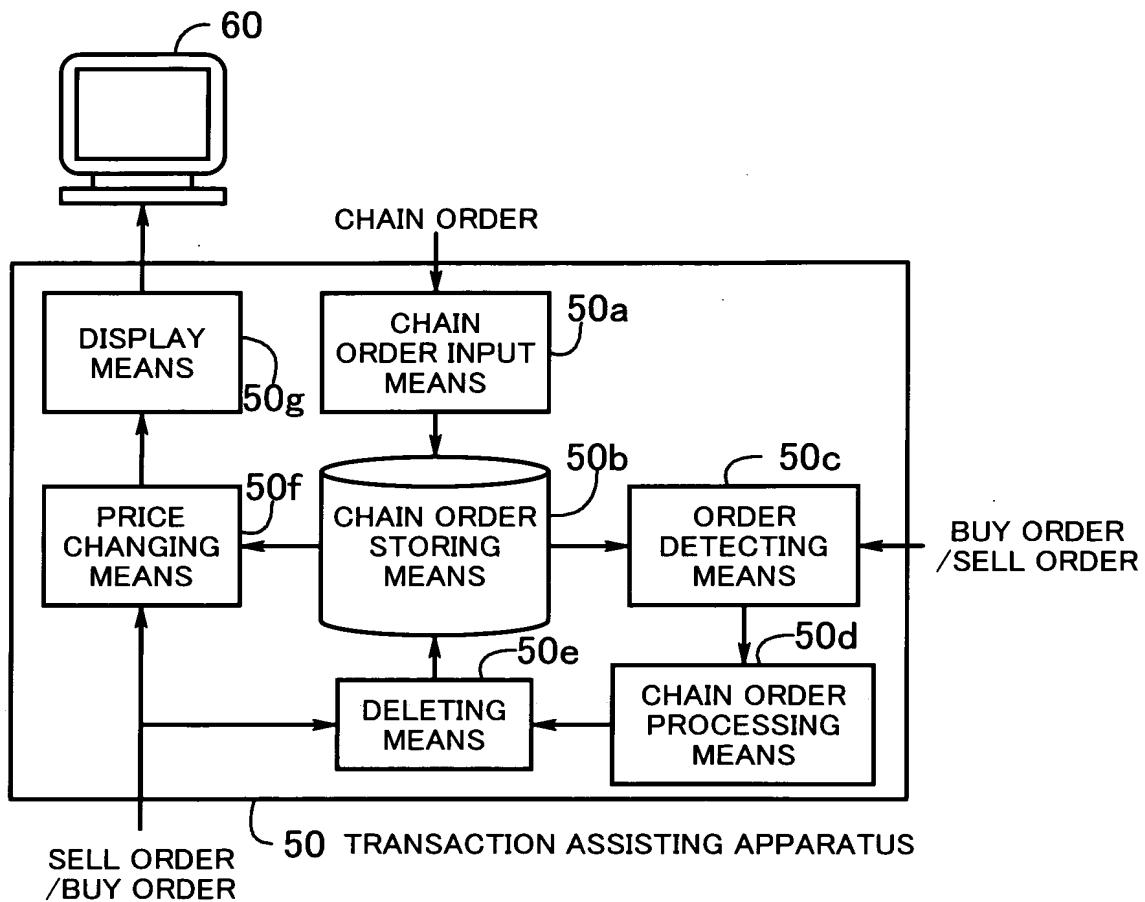
50d chain order processing means

50e deleting means

50f price changing means

50g display means

60 display unit



[FIG. 2]



CHAIN ISSUE	AMOUNT	RATE	DESIGNATION RANGE	CHAINED ISSUE
183	1 BILLION	+0.1	1.00~1.20	200

[FIG. 3]



SELL

183

BUY

ORDER NO.	RATE	AMOUNT	ORDER NO.	RATE	AMOUNT
(8) H	1.150	1 BILLION			

SELL

200

BUY

ORDER NO.	RATE	AMOUNT	ORDER NO.	RATE	AMOUNT
(2)	1.050	1 BILLION			

[FIG. 4]



SELL 183 BUY

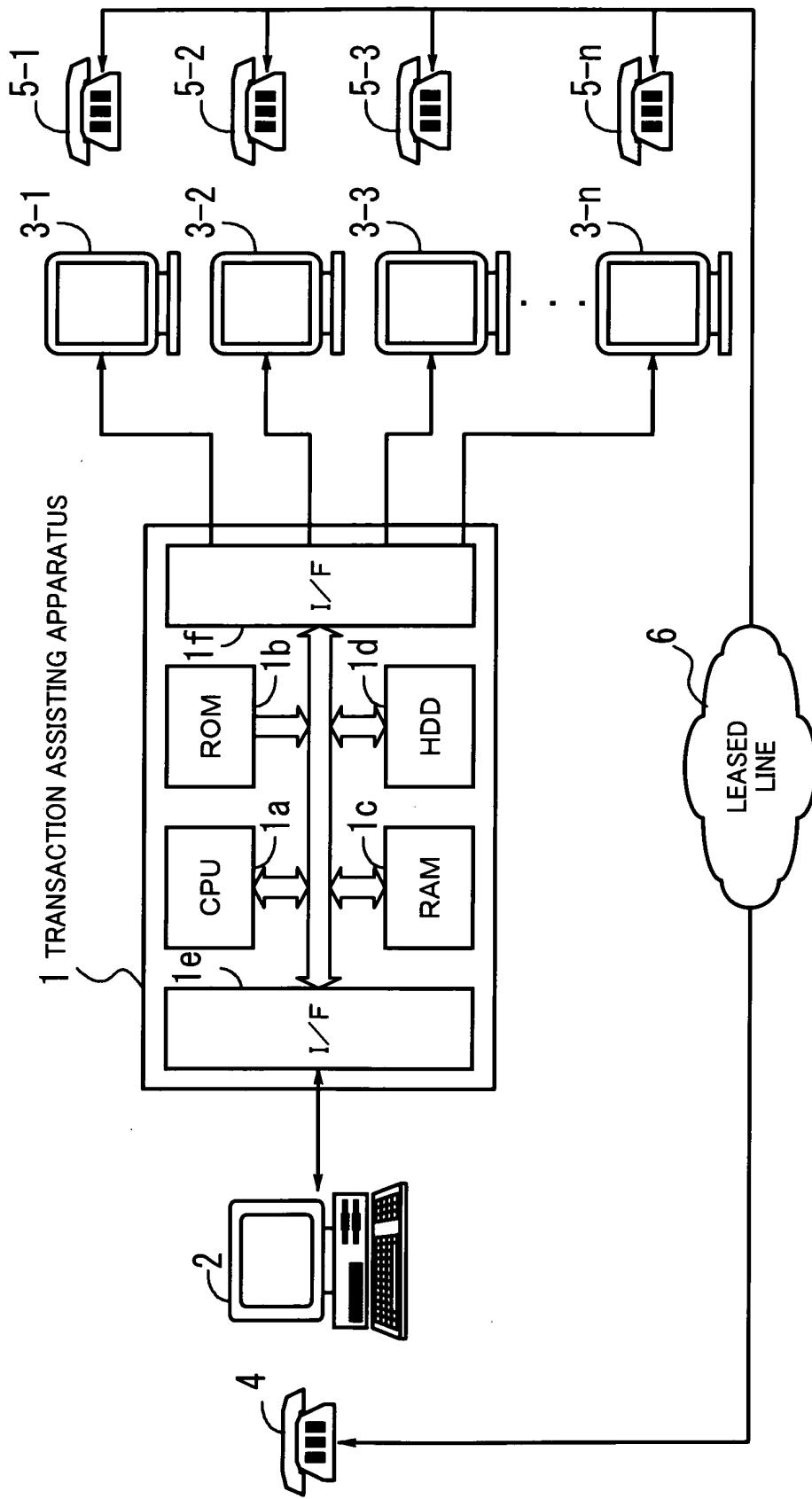
ORDER NO.	RATE	AMOUNT	ORDER NO.	RATE	AMOUNT
(12) H	1.155	1 BILLION			

SELL 200 BUY

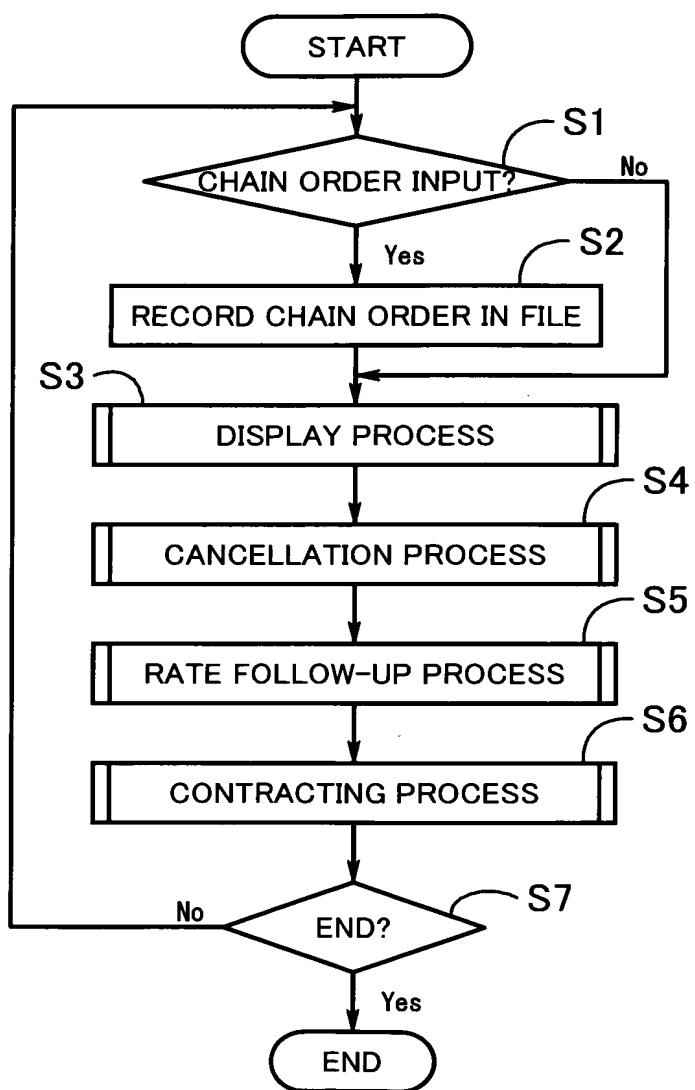
ORDER NO.	RATE	AMOUNT	ORDER NO.	RATE	AMOUNT
(10)	1.055	1 BILLION			
(2)	1.050	1 BILLION			



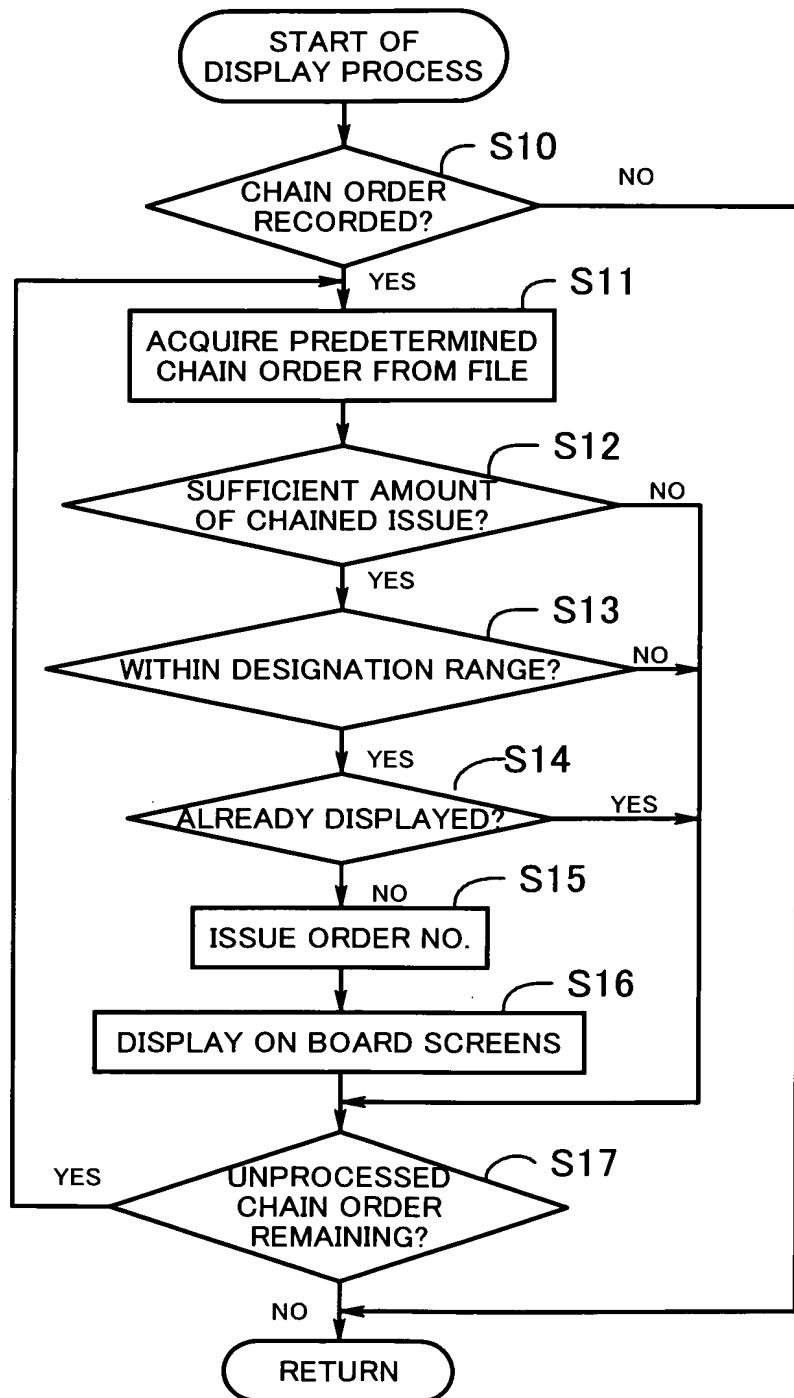
[FIG. 5]



[FIG. 6]

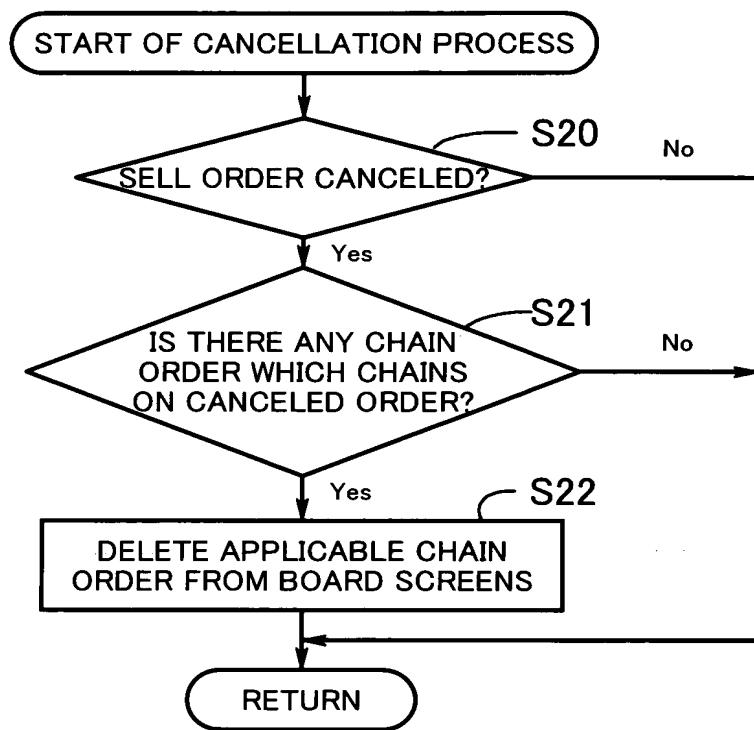


[FIG. 7]



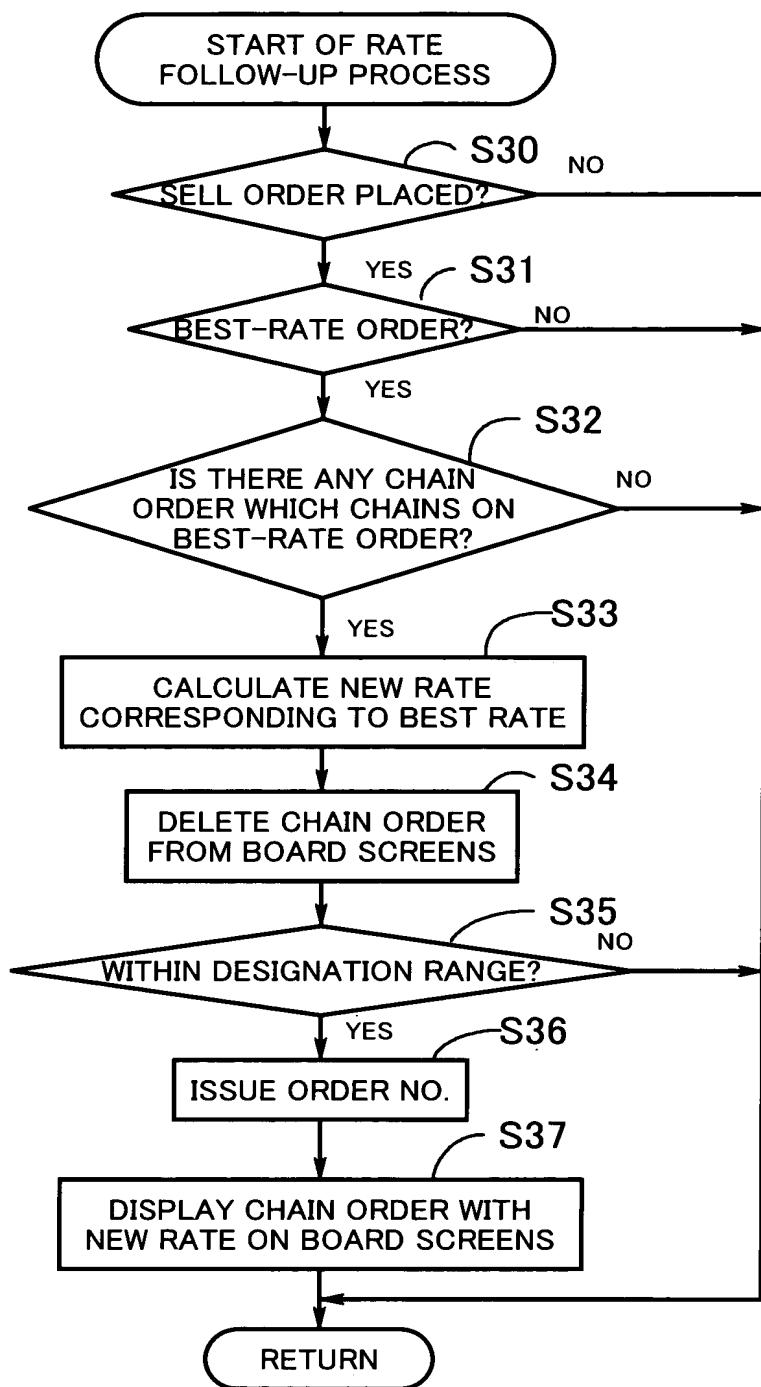


[FIG. 8]

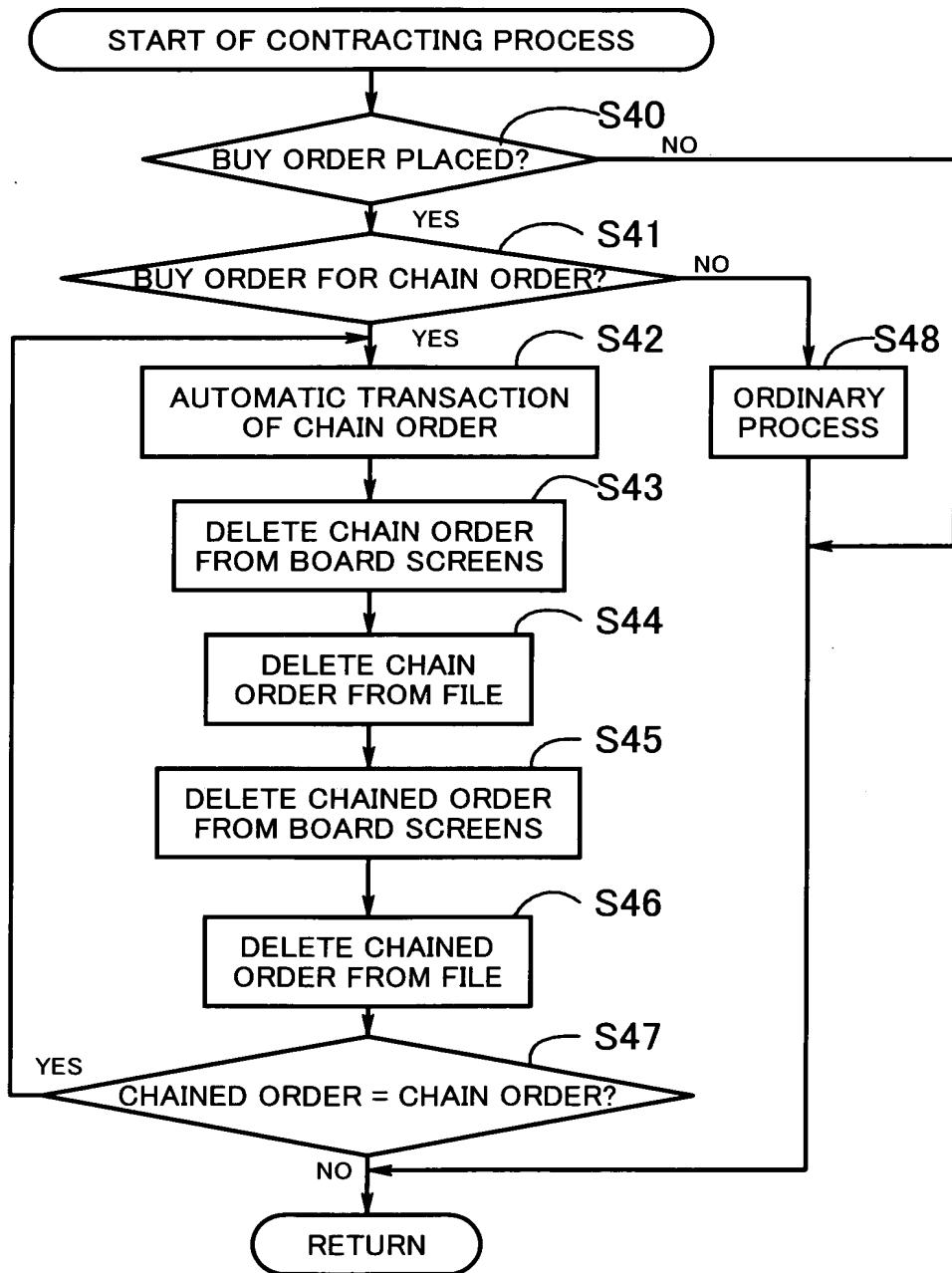




[FIG. 9]

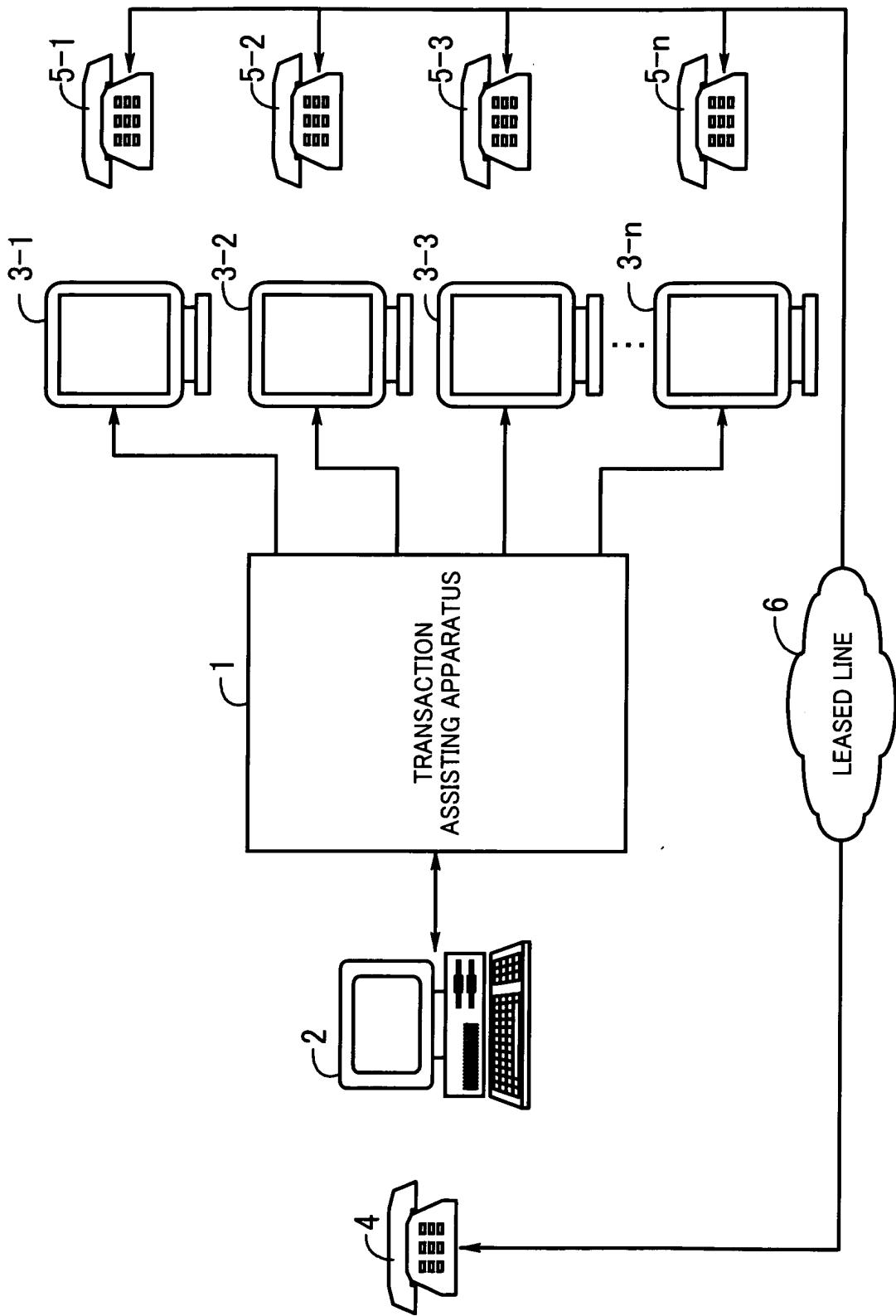


[FIG. 10]





[FIG. 11]



[FIG. 12]



SELL

183

BUY

ORDER NO.	RATE	AMOUNT	ORDER NO.	RATE	AMOUNT
(1)	1.065	1 BILLION			



[Title of Document] ABSTRACT

[Abstract]

[Object] Providing a transaction assisting apparatus capable of automatically transacting chain orders.

[Means for Achieving the Object] Chain order input unit 50a accepts entry of a chain order and supplies the input chain order to chain order storing unit 50b to be stored therein. Order detecting unit 50c is supplied with an input buy order, and if the buy order placed is for the chain order, it notifies chain order processing unit 50d that the buy order has been placed for the chain order. The chain order processing unit 50d performs a selling/purchasing process with respect to the chain order for which the buy order has been placed. When the selling/purchasing process is completed, deleting unit 50e deletes the corresponding chain order from the chain order storing unit 50b. In the event the price of chained goods has changed, price changing unit 50f changes the price of chain goods correspondingly in an interlocked manner. Display unit 50g selectively displays, on display units 60, only those chain orders which satisfy certain conditions such as the presence of chained goods.

[Selected Drawings] Figure 1



## HISTORICAL INFORMATION ON APPLICANT

**Identification Number:** [000005223]

**1. Date of Change:** March 26, 1996

**[Reasons for the Change]** Change of Address

**Address:** 1-1, Kamikodanaka 4-chome  
Nakahara-ku, Kawasaki-shi  
KANAGAWA

**Name:** FUJITSU LIMITED